



US Army Corps
of Engineers®

Engineer Update

Vol. 23 • No. 5 • May 1999



Even the HMMVs have a hard time dealing with the mud at the Task Force Hawk base camp in Tirana, Albania. (Photo by Lt. Mike Dickson, Combat Heavy Engineer)

Corps people respond to support soldiers in Albania

By Torrie McAllister
Europe District

After three days of drenching rain in Tirana, Albania, Col. Bill McCoy, commander of the 130th Engineer Brigade, stood knee-deep in a sea of mud directing base camp and Apache Support Area preparations for V Corps. Combat heavy engineers were among the first on the scene to prepare for deployment of more than 2,000 troops, two squadrons of AH-64 Apache attack helicopters, and UH-60 Blackhawk utility helicopters for transport and medical evacuation.

Calling Europe District via satellite, McCoy requested a survey team with technical expertise for site evaluations and drainage plans to advise him on how to stabilize the quagmire. The next day, two Europe District civilians, environmental engineer and force protection specialist Pat Brady, and surveyor John Miller, were on the ground. Two geotechnical experts, Dr. Al Bush, from the Engineer Research and Development Center (ERDC), and Dan Glock from Baltimore District, were in route. Another environmental engineer, Rusty Mizelle from Europe District, had already deployed with the early entry combat engineers to help U.S. Army Europe (USAREUR) prepare environmental baseline studies.

They will soon be reinforced by a tele-engineering capability being established within the Europe District by Len Husky from ERDC. Like telemedicine, which lets doctors consult on surgeries conducted half a world away, this sophisticated satellite communications system will let engineers collecting data in the Balkans hold real-time video consultations with

technical experts anywhere in the Corps.

Rapid response to military contingencies is a forte of the Engineer Regiment, the combined muscle and talent of military engineers and U.S. Army Corps of Engineers civilians who volunteer to deploy on a moment's notice wherever national security strategy requires.

The Corps, in partnership with USAREUR, is planning real estate, construction, and engineering support for NATO operations and deployment of Task Force Hawk in Albania. V Corps is orchestrating engineer support to the initial build up of the task force. USAREUR Deputy Chief of Staff Engineer Col.(P) Steve Hawkins is synchronizing the Army engineer support plan for the Balkans operation.

As it has in Bosnia, Croatia, and Hungary, USAREUR is using the sustainment services contract awarded by the Corps' Transatlantic Programs Center (TAC) to support soldiers being deployed for Task Force Hawk in Albania.

In early April, TAC tasked the contractor, Brown & Root Services, to begin planning for a temporary camp. Brown & Root Services is now on tap to provide temporary housing (tent complexes), food services, parking and road work, water, power generation, transportation services, mail delivery, and waste, trash, and disease vector control.

The top priorities are force protection and providing basic living conditions, i.e., building wooden platforms to get the tents out of the mud, and building mess halls, latrines, and showers.

The Chief of Engineers has designated Maj. Gen. Jerry Sinn, commander of North Atlantic Division,

Army awards three Corps communities

It's one thing to believe that your agency is excellent; it's another to have it confirmed.

Three offices in the U.S. Army Corps of Engineers were recognized in the Army Communities of Excellence competition.

The Engineering and Support Center, Huntsville was one of 13 winners of the Chief of Staff of the Army (CSA) Award, while Savannah District and the Waterways Experiment Station were among the 14 finalists for the CSA Award. This is the second year in a row that Huntsville has been a CSA Award winner.

Huntsville Center will receive \$200,000 for quality of life projects for its employees; Savannah District and WES will receive \$100,000 each.

This is the 10th year for the ACOE awards. Entries are judged by the Army Performance Improvement Criteria (APIC), which were adapted from the Malcolm Baldrige National Quality Award criteria widely used by private sector communities to gauge performance.

Huntsville Center

Huntsville Center has analyzed the effects of applying the APIC to its business processes for a four-year period. The analysis proved that Huntsville Center reduced in-house labor costs by 38 percent, reduced general and administrative costs by 36 percent, reduced the engineering total labor multiplier by 14 percent, and increased productivity 55 percent. These efforts saved Huntsville Center's customers \$62 million during the four years.

Savannah District

Savannah's APIC team highlighted several significant improvements including:

- Developed and initiated a process for using previous ACOE evaluations and feedback to improve business processes.
- Decreased regulatory permitting process time from 200 days per application to 25 days.
- Improved accessibility to district customers by more than 20 percent during the past three years, according to a military customer survey.
- Received the U.S. Air Force's Design Agent and Construction Agent of the Year, Regional Project Manager of the Year, and National Architect of the Year.

WES

Through the APIC, WES initiated self-assessments to determine strengths and areas that need attention. Performance is quantified, with emphasis placed on methods of additional improvement and enhancement. APIC participation has focused WES more on its customers and their needs. WES is also exploring areas for future opportunities and is actively soliciting input from customers. APIC has WES examining and refining business processes, including increasing team member empowerment.

Continued on page three

Chaplain's Corner

Teamwork means reaching to others

By Chaplain (Lt. Col.) Tim Carlson
Headquarters

As a ninth grader at Hindman High School in Kentucky, I had one motivation -- to make the basketball team. But like many males of my era, I grew rather slowly and boasted only a five-foot-two frame. My girlfriend at the time could jump and easily touch high on the net, and I could barely reach it.

I had other redeeming qualities to my game, but the initial impression was a short player whose value to a high school team might be marginal at best. But thanks to a caring older brother who intervened on my behalf, I made the team.

Teamwork demands making the team. How did you enter our U.S. Army Corps of Engineers? Do you value the privilege of "playing" for the Corps? I believe a necessary ingredient of teamwork is prize the privilege of belonging.

As you reflect back on your earliest days with USACE, it is likely that your beginning contributions were modest at best. Your greatest gift was pulling your weight and learning the mission. For those of us with some longevity, can we believe what great strides we have made in building our powerful Corps of Engineers?

The personal delight which I felt in 1963 is still exhilarating to recall. We played a school from Louisville, Ky., and lost badly. The next night, a rival school from Louisville was our opponent. As the half was winding down, I received a pass at what would now be three-point territory. I released the shot and the announcer called, "It's Carlson from deep in the corner and it's nothing but nylon!" Wow! I was contributing to our Yellow Jackets and, more than that, we won!

That win began with belonging and quickly



transitioned to hours upon hours of demanding practice. The laps, the suicide drills, the offense and defense, the broken nose and the imaging of success were all part of the hard work that characterized our team. Pearl Combs and Tubby Baker, our

coaches, had developed true teamwork from us. We were learning to play together.

That is the final component I will briefly mention. In a build-down environment (a soft '90s term for downsizing with high risk for reduction in force), there is a great temptation to place ourselves above the team. Self-interest is a real threat to optimal mission accomplishment and overall group satisfaction. The old adage, "It is beyond imagination to envision what an organization can accomplish when no one player is consumed with who will get the credit" still holds true.

Have you experienced this kind of exhilaration in the accomplishments of our Corps of Engineers? I hope so. Such altruism and teamwork are memories for life. Vitality stems from working together and being a team at work (noun) and committing ourselves to work (verb) as a unit which will always yield optimal, lasting rewards.

Is there any spiritual basis for this thinking? I am reminded of the words of King Solomon, "Put God first in all that you do and He will crown your efforts with success."

Are we willing to sacrifice self-aggrandizement and selfish ambition to gain continuing victories for our Corps team? I believe we are and that we will continue in this lane of success.

I am further challenged by the words of the Lord when He said, "Love the Lord your God with all your heart and with all your soul and with all your mind and with all your strength" and "Love your neighbor as yourself." We have many "neighbors" in the workplace. My brother gave me a chance to reach my dream. You may not be a biological brother, but each of us can reach beyond ourselves to give someone the chance of a lifetime.

True teamwork is infectious. Let's all catch it!

On-line groups need both freedom, control

By Bob Anderson
Memphis District

Close your eyes and imagine sitting at a conference table surrounded by the sharpest minds in your field. The eminent gathering represents more than a century of education, experience, and expertise. Imagine how the ideas flow around the table and cascade from mind to mind until a procedure is polished, a plan is perfected, or a problem is pounded into submission.

Now open your eyes, turn on your computer, and access your e-mail. You may not have faces and vocal inflections to interpret, or body language to read, but at your fingertips you have the potential to pick the brains of subject matter experts around the globe. As the U.S. Army Corps of Engineers grapples with leveraging maximum future benefits from technology, we can get the most out of electronic collaboration right now with on-line communities.

According to the Next Generation Research Group, an on-line community is a group of people who use computer networks as their primary mode of interaction about common interests, purposes, and objectives. People and the issues they face are still of paramount importance to the community; the computer networks are simply tools for helping people come together.

In most cases, the purpose of an on-line community

is to encourage knowledge sharing by allowing subject matter experts to exchange insights and ideas with their peers, say researchers Joseph Cothrel and Ruth Williams, affiliated with Arthur Andersen's Knowledge Services.

On-line communities also build virtual teams by helping specialists assigned to individual projects connect with other specialists on other teams. Team members can ask and address questions to their peers at distant locations more effectively and leverage the organization's collective intellect.

Cothrel and Williams also note that, while sharing ideas is a significant benefit of on-line communities, increases in productivity and efficiency also result because of cost savings associated with virtual meetings (no travel, hotels, or wasted time). Essentially, on-line communities are a marriage of technology with the traditional group process.

How can the Corps maximize the potential of e-mail discussion groups? According to recent studies conducted by the Center for Research and Learning in Regional Australia, the following characteristics of successful e-mail discussion groups contribute to a learning environment.

- Members challenge one another in their interactions with opinions that are open to discussion, rather than personal attacks on individuals.

- Positive attributes of discussion groups that issued these challenging opinions included high moderator involvement, a climate of respect, consideration and support from other members, and minimal personal attacks. Members who did personally attack others were called to account by the moderator, or the group publicly addressed the attack.

- Groups spend most of their time discussing the introduced topic and contributions of other members, instead of restating and reproducing their own positions and opinions.

- A moderator, or a host, who is tuned into current issues is key to keeping discussions on track to maintain a healthy learning environment. This further implies that time and resources must be given to electronic networking, if we are to expect good learning outcomes.

As the Corps moves into the next millennium, we can maximize e-mail discussion groups and build the team with virtual on-line communities.

Still, the individual passions of subject matter experts must drive on-line discussions. Far more lively exchanges about topics that matter will result, and on-line conversations, instead of one-sided business exchanges, will make participation its own reward.

Source: *Strategic Communication Management, Volume Three, March 1993.*



Oil refinery is now a recreation area

By Herb Nesmith
Los Angeles District

What were smelly, oily sludge pits are now a community recreation area and wildlife habitat, thanks to the Environmental Protection Agency (EPA), Los Angeles District, and a coalition of oil companies who all combined cleanup efforts to remove a Southern California site from the EPA's Superfund list.

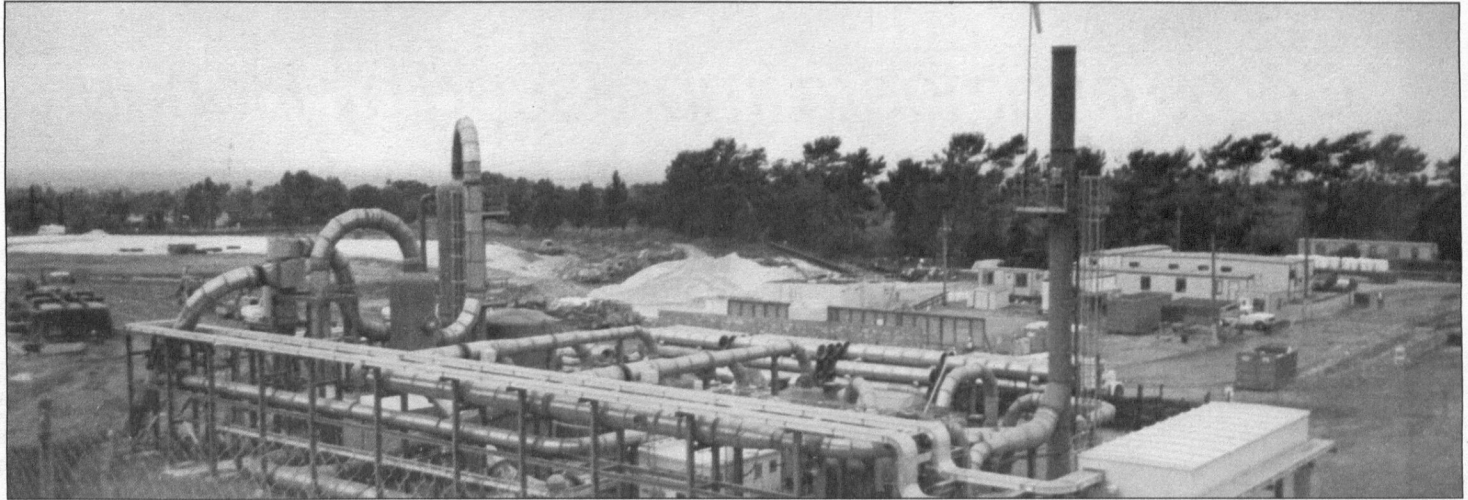
The McColl Site was a World War II oil refinery dump in Fullerton, Calif., producing mainly high-octane aviation fuel. They dumped oily sludge into a dozen unlined sumps during the 1940s and 1950s and, in the 1970s, as Orange County communities grew, some homes were built next to the site. The waste materials in the pits (and especially the odors from them) were unwelcome to the neighborhood.

"The oil residue creates a tar-like substance with a high acid content," said Frank Hubel, Los Angeles District's project manager and oversight engineer for the cleanup. "It really created a bad odor in the neighborhood."

The McColl Site cleanup project has a long history. It had been on the National Priority List since the early 1980s, was the fourth Superfund site listed in California, and the subject of many studies, discussions, disputes, and at least one false start. Two years ago the coalition finally established the cleanup plan, and the result is a golf course and wildlife sanctuary for the community.

The cleanup was an EPA project with the Corps as its technical advisor. The McColl Site Group Oil Companies (a special-purpose consortium of Shell, Arco, Union Oil and Texaco) hired contractors to do the work.

The project was a little out of the ordinary for the Corps because the district did not determine how to solve the problem or award the contract. It was a four-party operation. The court



A former oil refinery (above) has been transformed into a golf course with the Corps' help. (Photos courtesy of Los Angeles District)

outlined what to do in a decree that resolved the 14-year issue of cleaning up the site. The oil company coalition hired the contractors, and EPA was in charge. The Corps oversaw the operation, ensuring the contractors built the project according to the court ruling.

"EPA used us for our technical expertise, contracting capability, and experience in dealing with the public," Hubel said. He and civil engineering technician Glynn Alsup, both with the Environmental Construction Branch office, were present whenever work was done. They observed the work,

attended project and public meetings, and were ready to direct the immediate cleanup of any spills.

"The Corps had 100 percent presence during construction," Hubel said. "That comforted the community."

The project locks underground some 100,000 cubic yards of sludge. It has three major elements -- curtain walls 35 feet underground; a high-density, multi-layer, geo-composite, impermeable cover across the top; and under that cap a piping system to collect gases and route them to a carbon-treatment plant for cleansing. The cutoff walls (made of impermeable

bentonite clay mixed with earth) and the engineering cap keep the gases from escaping into the air or surrounding soil, and prevent ground water from seeping into the pits.

The waste material is now safely contained underground, and the public can enjoy a golf course built on the surface. In addition, there is a wildlife sanctuary, with enhanced habitats for native birds, migratory fowl and other wildlife. The golf course participates in the Audubon Sanctuary Program, and in a course association's program for environmental practices in golf-course management.

Albania

Continued from page one

and NAD's Europe District as the Corps' lead element to coordinate USACE support to Balkan operations.

In a dynamic operation, where communications and response time are everything, the Corps is collocating liaison officers with European Command (EUCOM), USAREUR engineers and logisticians, and U.S. Air Force Europe civil engineers.

In Albania, Dwight Dukes is Europe District's team leader and contracting officer representative for the engineering aspects of Brown and Root's contract, together with the Defense Logistics Agency's Defense Contract Management District-International.

At EUCOM headquarters in Stuttgart, Rich Dickson from Europe District is the Corps' liaison with the J-4 Engineer staff.

Europe District's Planning Officer,

Scott Lowdermilk, is collocated with the USAREUR Deputy Chief of Staff Engineer's Military Engineering Topographic Branch to coordinate USACE activities and ensure synergy of effort.

In USAREUR's Deputy Chief of Staff for Logistics office, Bill Mills, TAC's Chief of Plans and Operations, is working along with logisticians to ensure the sustainment contract keeps pace with the fluidity of operations.

Carmine Leone is first of several NAD engineers to deploy to Europe District's Operations and Readiness Center to synchronize USACE support.

"This is just the first wave of Corps talent," said John Daneker, Europe District's Operations Officer, who is organizing the deployment of all USACE personnel into the Europe and the Balkans. "The Corps' CREST team is on standby to deploy in support of USAREUR real estate acquisition. We



Carmine Leone of North Atlantic Division (left) works with Pat Brady (center) and John Miller of Europe District organizing survey equipment for a rapid deployment to Albania. (Photo by Torrie McAllister, Europe District)

have volunteers from across the Corps identified and ready to support Balkan operations." CREST is the Contin-

gency Real Estate Support Team, a group of Corps real estate specialists prepared to deploy quickly.

Hurricane Mitch

Corps engineers impressed by Hondurans' resilience

Article by Tim Dugan
Photos by Hal Smith
Mobile District

When Randy Goff disembarked from the plane in Honduras a few days after Hurricane Mitch, he wasn't sure what to expect.

Before departure, he and other engineers attended a health and safety briefing where a nurse painted a grim picture. She said they might see dead bodies washing up on shore. She detailed the AIDS problem and listed other diseases -- cholera, typhoid, diphtheria, dengue fever, and yellow fever.

Engineers and others who deployed faced tough conditions. There was widespread suffering and death from the hurricane, flooding, and mudslides. The death toll was near 10,000, with another 13,000 missing, almost 300,000 homeless, and more than 3 million displaced.

Landmines, placed along the Nicaraguan-Honduran border during conflicts in the 1980s, were moved around by mudslides. Engineers studying those landslides faced injury or death if they took a wrong step, and at least four local citizens were reported killed by mines.

"I was a little apprehensive about going, just not knowing what I was getting into," said Goff of Mobile District's Design Branch. "Working conditions were rugged, but it wasn't nearly as bad as I expected."

Goff didn't see any hurricane casualties. "A lot of that had already been cleaned up, but there was a lot of suffering. There were mudslide areas with people still buried underneath."

"I was amazed that there were areas that appeared to have no damage, then there were areas where it looked like an atom bomb went off," said Billy Brown of the Latin America Management Team. "There was unbelievable devastation, biblical in nature. Our mission was to support the military engineers coming in and provide them with reports on what they needed to do."

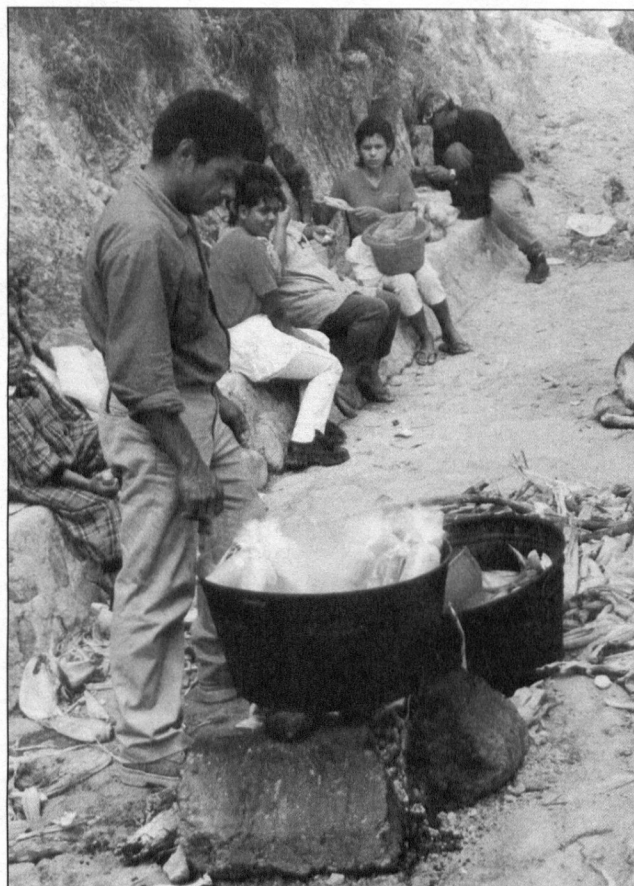
JTF Bravo. Most district members were assigned to Joint Task Force (JTF) Bravo and assessed conditions of roads and bridges. "They were primarily concerned with the condition of bridges, the extent of damage, recommendations to fix them, how long it would take to repair, and estimated cost," Goff said. "We were there in a technical advisory capacity. There were so many areas damaged that we were helping JTF Bravo prioritize where they wanted to start."

This was a Corps-wide effort spearheaded by Mobile District together with South Atlantic Division and Headquarters. The Joint Task Force could draw from the Air Force's Red Horse engineers, the Army's combat heavy construction engineers, and the Navy's Construction Battalions.

"Although assessments centered mostly on bridges, there were some structures assessed for damage, including hospitals," said Fred Mann of the Latin American Management Team. "The main areas addressed were transportation, roads, and bridges. There were some joint evaluation teams, such as the Corps/Army/Navy/Marines. Teams were assembled sometimes depending on the mission of the day."

"This was one of those rare opportunities for an engineer to use his knowledge, skills, and experience with some real seat-of-the-pants engineering and address real engineering problems, develop solutions on-the-spot, and implement those solutions," Mann added.

Howard Whittington, Chief of Hydrology and Hydraulics Branch, made three trips to Honduras. "The first time I was doing damage assessments in



Hurricane Mitch left many Honduran people homeless and living in primitive conditions.

Tegucigalpa and at Soto Cano Air Base. The second and third times were to work with the World Bank to devise detailed engineering plans on solutions to correct the El Berrinche landslide."

The slide blocked the river, creating a lagoon that collected raw sewage and runoff. It has since been drained.

Solutions. Wendell Mears of Navigation Section deployed to Honduras to investigate the El Berrinche slide and help reduce future potential flood damage. The proposed plan is to stabilize the landslide area, regrade the land, and provide some channel capacity to reduce the impact of flooding during the rainy season. Plans are to complete the work by May or June.

"Mid-May starts the rainy season," Mears said. "If we don't get something done, there's a potential for more flooding. I wrote the specs and had a local consultant do the plans and logistical needs."

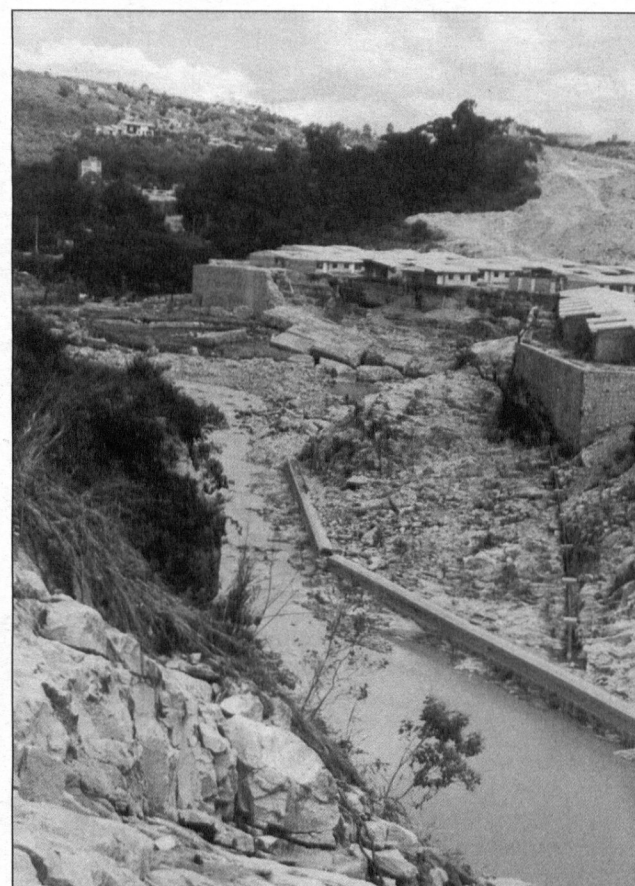
"It'll probably run \$2.5 million to \$3 million," Mears said. Related work may increase that to \$4 million. "This is a short-term fix until Engineering can look at the long-term fix. The problem is going to get worse instead of better. There are some really immediate short-term problems, like potential flooding during the rainy season, that the public is unaware of."

Landslides. Honduras was devastated by thousands of landslides, three major ones in Tegucigalpa. Working around the landslide area exposed engineers to debris, raw sewage, and dead animals.

"This was a huge event, way beyond a 100-year flood," said Whittington. "There wasn't a lot of wind damage, but because of massive amounts of rain in such a short period, a lot of the hillsides just gave way."

"Every river basin was dramatically effected by the storm," Whittington added. "There's so much sediment in the system that it'll take 50 years before it regains some equilibrium. We have to be careful in what we do that may change the system."

Engineers had to concentrate on missions despite the suffering that surrounded them. People were liv-



ing in the streets, cooking on open fires, and orphans slept on their hotel steps.

Bandits. Not only did engineers face diseases and suffering, but they had to watch out for crime. "They told us that we had to be careful, not to travel at night or out of the city limits because of bandits. Crime has gotten worse since the hurricane. They told us to be careful when we were away, to stay in groups and stay off the roads at night."

"The support from the U.S. contingent, from the embassy and Honduras Area Office, was excellent," said Beau Hanna of Water Management Section. "We couldn't have done it without them. There's a lot of work that needs to be done down there."

"There were towns in the valleys that were completely covered up," Goff said. "The basic infrastructure of roads and bridges was wiped out. It's not a matter of replacing a few. It's a total overhaul. It's going to take a lot of money to bring it back to where it was."

But the devastation and hard work is not what the Corps' people will remember.

Resilience. "I was impressed with the people of Honduras," Hanna said. "They were doing the best they could to clean up the city. I was impressed with their attitude."

"Everybody down there was pulling together to help," said Goff. "The Hondurans were actively working to help themselves and others. They weren't sitting around and waiting for the U.S. to come in and rescue them. They were working and they showed a lot of ingenuity in getting things done. It was a concerted effort. The Hondurans are innovative, creative people. They came up with some ways to solve problems that were ingenious."

"But it will take the world community to fix," Goff added. "It's going to take a few years. The Corps is staying involved and we're helping as much as we can. If the work does come, we'll have proved that we can get the job done and do it well."



Build Team

Leverage the total Corps organization through teamwork to provide seamless support to customers.

Regiment binds all engineers together

Article by Bernard Tate
Graphics by George Halford
Headquarters

"If you wear a castle on your collar, if you have a castle in your office, or if you work with people whose motto is 'Essayons,' then you are part of this regiment," Lt. Gen. Joe Ballard, Chief of Engineers, told the ENFORCE XXI conference last year at Fort Leonard Wood, Mo.

That's a big regiment, arguably the biggest in the Army. AR 600-82, the regulation covering the U.S. Army Regimental System, backs up the claim. Among the corps listed in section

think about themselves," wrote Ballard in a recent article for *Engineer* magazine. "They feel that they are a U.S. Army soldier first, an engineer second, and a member of their unit third. Soldiers stick up for one another simply because they are engineers."

So regimental unity is vital, especially for one as large and diverse as the Engineer Regiment, which contains people who don't even realize they are part of a regiment. Besides the work that they do, three factors help link together Engineer Regiment members.

One linking factor is the Regimental Vision, hammered out by the Corps' senior leaders and adopted by the General Officer Regimental Vision Conference in Arlington, Va., last September. The final vision statement, which can be found on the Corps' webpage, states that the Engineer Regiment is:

- The world's premier engineer team.
- A full spectrum total force, vital to the Army and the nation.
- Values-based -- respected, responsive, ready.
- Visualizing and enhancing terrain to ensure mission success.

• Meeting tomorrow's challenges today -- deployed or at home, in peace or at war.

Another link is the annual ENFORCE XXI conference at Fort Leonard Wood, home of the U.S. Army Engineer School.

"ENFORCE is the one time each year that all of the senior commanders throughout the regiment assemble to professionally exchange information," said O'Neill.

The third link is the AEA, a non-profit, tax-exempt corporation with offices in Alexandria, Va., and Fort Leonard Wood. The AEA supports the Engineer Regiment in a variety of ways. It helps commemorate and memorialize the regiment's distinctive past, and recognizes current achievements of units and individuals.

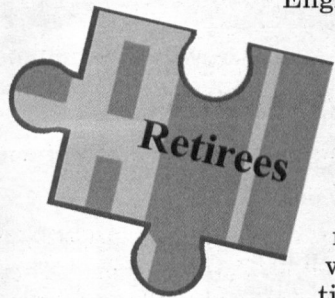
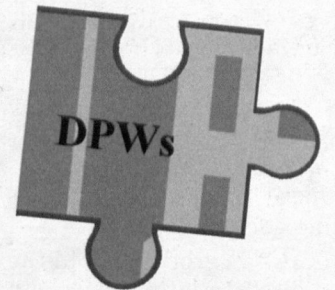
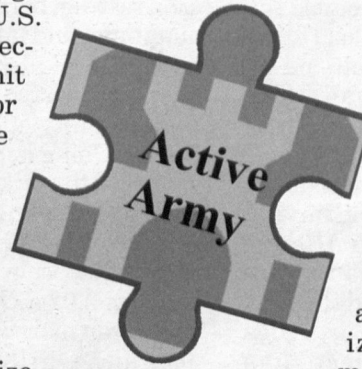
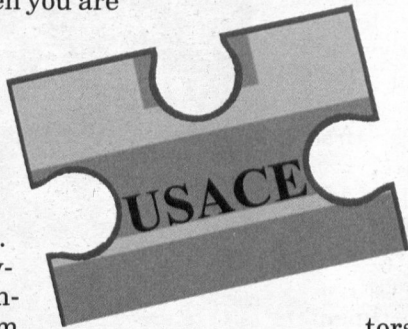
The AEA's deFleury Medal honors outstanding individual contributions to the regiment, the ACES award honors the best squad leaders in each engineer battalion, and the Grizzly Award honors the best platoon leaders from the active Army, National Guard, and Reserve.

The AEA also sponsors two scholarships for regiment members and their families, forms partnerships and networks with private industry, publishes *The Army Engineer*, the regiment's bimonthly magazine, maintains a webpage at <http://www.armyengineer.com>, and operates the Regimental Store.

"The Engineer Regiment helps bond every member of the Corps into a fraternity," said O'Neill.

"Early engineers spoke with one voice," Ballard told ENFORCE XXI last year. "They were a tightly knit group of people who kept tabs on each other. They stayed in constant communication, and they did this with-out e-mail, faxes, or Federal Express. We're proud of this past, and we all share in its heritage."

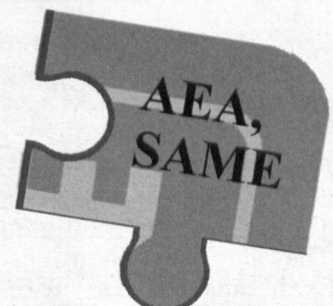
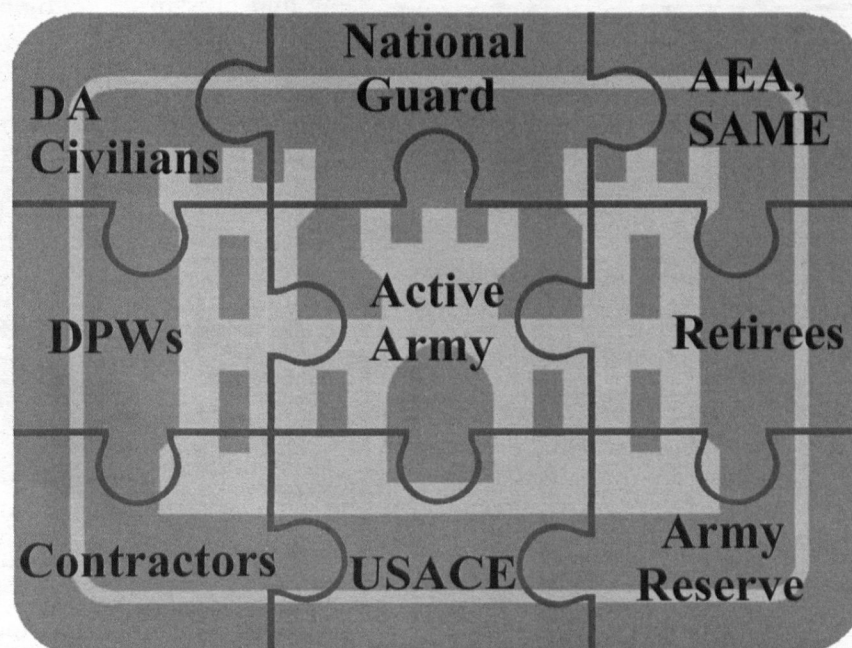
"Ultimately, the future of the regiment is in your hands," wrote Ballard in *Engineer* magazine. "We can continue working in isolated cells...or we can realize the benefits of applying our collective power to the regiment's problems."



component can stand alone. Our regiment includes the Reserves and the National Guard; they make up more than half of our forces. The USACE divisions, districts, and labs are part of the regiment, so are the Directors of Public Works and, of course, our Department of the Army civilians. Retirees are also part of the regiment; once a member, always a member. And finally, the contractors and professional organizations who work with us are important partners and stakeholders."

"The Army regimental system started in 1986," said Jack O'Neill, Executive Director of the Army Engineer Association (AEA). "It started as a way to boost morale and preserve history and tradition. As the Army downsized and so many units were deactivated, Army leaders felt something was needed for soldiers to identify with, to link soldiers with the proud heritage of the past."

"Regimental unity changes the way soldiers



Teamwork builds needed dam in Puerto Rico

Article and Photos
By Christina Plunkett
Jacksonville District

The U.S. Army Corps of Engineers is setting new water resource technology standards and inventing new techniques while overseeing the design and building of Portugues Dam in Ponce, Puerto Rico.

The dam is part of the Portugues and Bucana Rivers Project, and is the first thin arch concrete dam the Corps has built. Water pressure actually increases the strength of a curved thin arch dam because the

curve transfers the load to the mountain abutments on either side of its wall. The Portugues Dam is curved both vertically and horizontally.

Since 1985, when technical experts from Jacksonville District and South Atlantic Division (SAD) began site investigations to find the best location for the Portugues Dam, this project has

brought Corps offices together to meet many design and geological challenges.

The variation in the rock and its highly fractured foundation required a new grouting procedure called duration grouting. This new procedure, used in the project's grouting phase and foundation, is being documented in the Corps' official grouting manual.

The drilling and grouting phase of Portugues Dam, which seals the dam's foundation, is led by geologists Tom Novak and Rafael Rios of Jacksonville District. They, along with geologists Tim Pope and Jim Erwin from SAD, Paul Fisher from Headquarters, and Don Banks from Waterways Experiment Station (WES), first walked the Ponce area in 1985 looking for the perfect site to build a thin arch dam.

Visually, the region is breathtaking, with lush tropical greenery dotting steep slopes of mountains that rise 600 feet above the Portugues River. But from an engineers' perspective, the majestic land makes for a labor-intensive job of excavating and building. Just driving to work each day can be a challenge on steep, narrow, muddy roads where rock slides are as frequent as the afternoon rainfall.

There were few roads at all before the two excavation contracts in 1994 and 1995 that exposed the left and right abutments and removed 350,000 cubic yards of material. Due to the project's complexity and uncertainties, the Corps decided to perform the work in-house to use already available expertise and to train new technicians. The Corps and local labor created roads, dug wells, and set up generators to supply water and electricity for the grouting process.

More than 10 years ago, Novak and Rios drilled the first 27 core borings along what would be the axis of the Portugues Dam during their initial foundation investigation. They found that no two of the 27 core borings were alike because the dam site rests on volcanic sediments (siltstone, sandstone, and conglomerate) that were deposited in an ocean environment. A highly fractured rock foundation with very thin openings extending to great depths makes grouting the area difficult. The Corps has joined together nationally as one team to conduct the extensive geotechnical investigations needed to build the dam.

In 1994, as the foundation grouting program be-

gan, Novak solicited help Corps-wide via e-mail to assist the mapping and test grouting program. Besides Jacksonville District's Geotechnical Branch personnel, 17 geologists and engineers from 11 districts, WES, and the Southwest Division Lab participated. Mobile District provided drill crews, mechanics, grouting equipment, and technical support. As many as 52 Corps experts at a time worked at the dam site during the testing program, which included surface mapping, core borings, exploratory adits (horizontal passages), age dating, adit mapping, bore hole deformation testing, borehole video logging, grout mitigation mapping, and laboratory testing.

The Corps also conducted water and grout pressure tests in selected grout holes to determine the rock's permeability and evaluate the foundation flow patterns. Using borehole video cameras, the geologists observed the rock's fracture frequency, orientation, and aperture thickness before and after grouting. These observations, performed by technicians from Walla Walla District in 1988, revealed water loss in fine fractures of 0.02 inches or less. The camera logs showed that even more fractures (58 percent) were less than 0.02 inches in thickness. This meant that the Corps' standard grouting procedures would not work. Portland cement is too coarse to fill such thin fractures.

The geotechnical grouting team began experimenting with mixtures of Portland and two types of microfine cement, which the Corps has never used for foundation grouting. Microfine cement is so light it looks and feels like baby powder. Because microfine cement costs three times more than Portland cement, the grouting team wanted to see if some Portland could be combined with the microfine cement, depending on the thickness and depth of each fracture. The tests indicated they were right.

Testing also found greater resistance to the flow of grout through thinner fractures. This meant that grouting injection pressures, and the refusal criteria for the standard injection time, had to be adjusted hole by hole. (Refusal is when the hole will take no more grout.) The Corps' refusal standard is one-tenth

of a cubic foot of grout per minute for 10 minutes, but the geological team needed to increase the time.

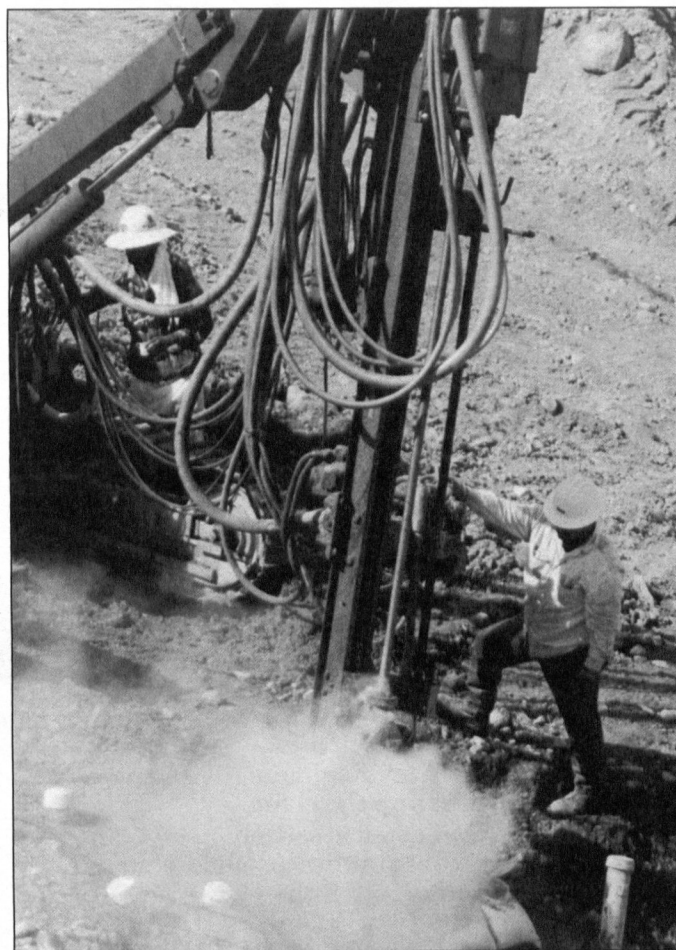
"The number of gallons of water per minute a hole takes during pressure testing shows the type of grout needed to fill it, and the grouting time and pressures required to ensure

sealing all cracks," Rios said.

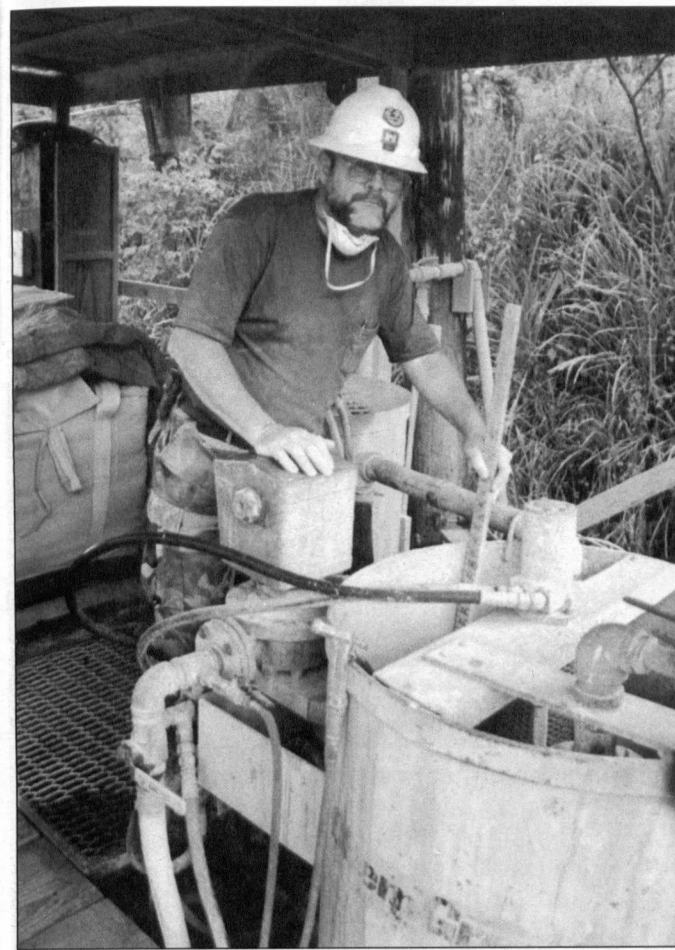
By cross-referencing the water pressure test results with the video camera observations and the grout injection results, the grouting team found a ratio between water pressure tests, volumes of grout injected, injection pressures, fracture openings, and time, which created the new duration grouting procedure.

If this sounds complicated, it is only the beginning of a meticulous drilling and grouting method involving minute-by-minute monitoring at the dam site and continual communications via radio with the geologists at the staging area.

The split space drilling method is not new, but the application is unique to this project. The drilling and grouting is conducted in stages to ensure all the cracks are filled and to prevent rupturing the rock surface. The hole depth is 180 feet (in some places 210 feet), but the drilling is done in stages. First the hole is drilled to 20 feet, pressure washed and tested, then grouted. After waiting at least 24 hours, the same hole will be drilled and grouted again to 50 feet, and



(Left) A Corps driller uses a down hole hammer in the river channel, while a geologist from Transatlantic division checks the drilling sequence. (Right) Sam Taylor, a drill rig operator, measures grout takes at a grout plant at the left abutment.



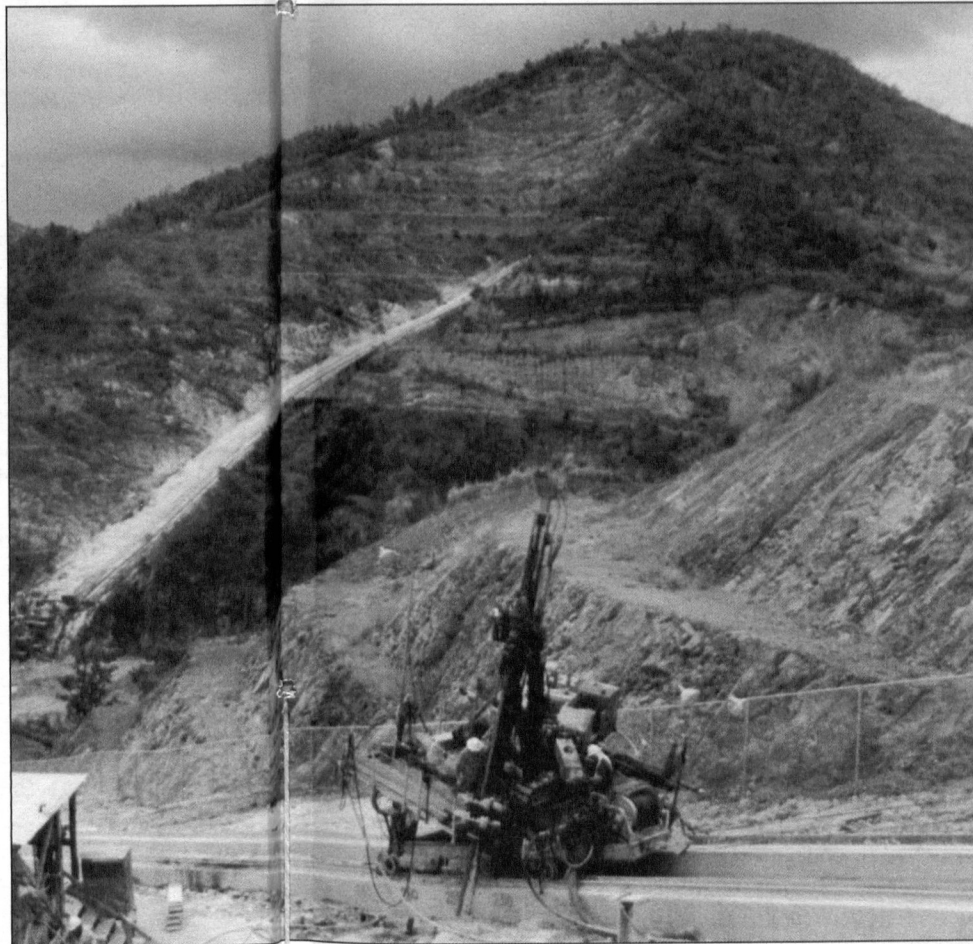
will continue 30 feet deeper each time until reaching 180 or 210 feet.

Special drills were manufactured to handle the steep slopes and provide high pressure. These drills, which exert 18,000 pounds, had to be mounted on platforms at a certain angle so they would work, according to Jim Horsley, drill foreman. Horsley retired in March and Mark Whitson of Jacksonville District took over, aided by James Carpenter, a drilling specialist from Baltimore District.

It is incredible to look 500 feet down and see the drill crews balanced over the monstrous drills angled along the steep abutments. The force of the drills shakes the earth under them. Even more mind-boggling is the mapping and logging to track the thousands of holes and their special grouting needs which vary with the type of rock surrounding them.

Geologist Jerry Hand of Jacksonville District created color-coded maps which delineate the project area by meta-sandstone, meta-conglomerate, dikes, and shear zones. His work is used every day by the geotechnical analysis team who analyze the stability and flow characteristics of the foundation. Geologist Gary Holem of Jacksonville District has input data since the geologists first starting drilling in 1994. With Holem's guidance, Jacksonville's Information Management specialists created special computer programs to track all the grout datas.

"We looked at existing programs such as WES's Com-



The mountainous terrain of Puerto Rico challenged the Corps' geologists.

puter Applications in Geotechnical Engineering program, and programs for the Cerrillos Dam Project, but these didn't have what we needed," said Holem. "So we started from scratch to create programs unique to this project, which are evolving as we go."

Several kinds of short programs were created which provide real-time input of grout data, including the number and location of bore holes grouted and the



A birds-eye view from the left abutment scaffolding shows the sheer size of the Portugues Dam project.

pressure, volume, and cement mixes used for each hole. Each day's field work is input on laptops and downloaded onto the main database.

With three grout plants working, each grouting up to five holes a day, there is a lot of data to record. One program initializes hole sequences, while another tracks scheduling, and spreadsheets record drill footage, pressure amounts, and total grout injected. Tracking these statistics by computer is time-consuming, but it is easier than the old way where geologists wrote the information on wall-size maps.

Presently, 35 to 40 technical experts work on the project. They include six geologists from Jacksonville District; 11 drillers from Mobile, Kansas City, Baltimore and Jacksonville districts; 22 local drill helpers; and two mechanics, one local and one from the Ponce Resident Office.

"The support and cooperation among Corps experts nationwide, and Jacksonville's Engineering, Construction-Operations and Project Management divisions, especially from the Ponce Resident Office, has helped

the geotechnical team immensely," said Novak. "Rios and I have worked closely with Geotechnical Project Engineer Scott Burch and Project Engineer Charlie Osborne, whose help has been invaluable."

Not only has the Corps come together to tackle this project, but technical experts have also been partnering with other agencies including the Bureau of Reclamation, WES's Arch Dam Task Group, plus COLENGO of Switzerland and many other architectural engineering consultants. They have contributed to the dam's design criteria, the development of software tools such as the interactive graphics art dam layout program, and temperature analysis program.

The drilling and grouting phase should be completed by September. For the Corps technical team creating the Portugues Dam's grout curtain, it is back-breaking work where specifications vary from hole to hole.

"Grouting is not completely a science," said Rios. "It's also an art because there are no definites you can count on. Every area has its own composition, especially in this project where the geology is complex."

Ft. Stewart engineers visit district

Article by Alicia Gregory
Photo by Jonas Jordan
Savannah District

Fort Stewart's Engineer Brigade officers paid a visit to their counterparts in Savannah District as part of a joint effort to give the brigade combat engineer officers an opportunity to see how the duties of construction engineers differ from their own.

The trip was part of a professional development program for all officers in the brigade, which consists of the 11th, 10th, and 317th engineer battalions.

The 70 combat engineer officers were given the Savannah District Command briefing, explanations of some of the roles and responsibilities of the district, and a tour of the Savannah River and a dredge disposal site.

"This allows us another avenue to tell our story," said Lt. Col. David Bender, Deputy Commander of Savannah District. "It is very important to get the word out about what the Corps of Engineers is all about, our missions and how we serve the Army and the nation."

One of the district's project engineer officers gave a presentation to the visiting soldiers describing how she started her career in a combat engineering battalion, and about her responsibilities now as a project engineer at a district field office at Fort Benning, Ga.

Another presenter explained how the Corps plans and executes its projects using a state-of-the-art technology system. The particular system shown is one that combines Computer Aided Drafting and Design and a Geographic Information System to provide Army installations with the information necessary to complete their master planning missions.

But most of the officers agreed that it was the trip



Build Team



Alan Garrett points out harbor maintenance sites to Army engineer officers visiting Savannah District.

down the Savannah River on the survey boat *Downs* and the visit to the dredge spoils site that they most enjoyed.

"What was interesting to me was the historical background of the river and the dredging process," said 2nd Lt. Luke Leising, deputy assistant brigade engineer, 11th Engineer Battalion.

Crewmembers on the *Downs* explained how they surveyed the Savannah Harbor using a fathometer, in combination with several computer programs, to compute yardage and find shoal locations before and after dredging.

A product of the dredging is the dredge spoils sites. The officers saw a site first-hand and received a brief explanation of how the silt and water removed from the harbor is monitored by district technicians.

"I was most impressed by the size and scale of the district's operation," said 1st Lt. James Younts, battalion adjutant, 11th Engineer Battalion. The lieutenant said he didn't realize all that the U.S. Army Corps of Engineers actually did.

"Right now, these officers are full-time in the business of providing mobility and survivability support to our combat forces," said Col. David Washechek,

commander of the Third Infantry Division's Engineer Brigade. "The Corps of Engineers is in the business of supporting the Army and the nation. We thought it was important to make sure that some of our younger officers get an appreciation for just how big that contribution is."

According to Bender, this type of training is what motivated him to want to be a part of this district. And, much like the visiting officers, he was also shown a career opportunity other than combat engineering.

"This is a completely different side to the Corps of Engineers," said Younts. "You've got the tactical and training side, which we are in right now, and this is the building, planning, and developing side."

"Everything is more permanent, more lasting in the district," said Leising. "You're actually building something, whereas our job is training to be able to build something."

"Someday one of these officers may be a district commander," said Washechek. "I think it's useful for them to begin to prepare for the requirements that the Corps of Engineers and the nation may expect from them."

'Branding' can help bind Corps together

By Ron Ruffenach
Fort Worth District
And Penny Schmitt
Wilmington District

What better place to get down to the red-hot fundamentals of brand management than Fort Worth, Texas? In April, members of the U.S. Army Corps of Engineers Outreach team and its Brand Management sub-team spent two days exploring the potential benefits of applying a sophisticated business strategy (not a Castle-shaped red-hot iron!) to working with our many customers and publics.

Branding has come a long way since the days when brands marked beef on the hoof. For years, brands have been basic naming and identification tools for products on the shelf, and also for creating corporate identity.

In fact, "brand" is not just the name or image that leaps into your mind when you hear the words Coke, Kleenex, or IBM. It's a whole complex of associations and ideas that go along with the brand. In the

corporate world, organizations have well-thought-out strategies for creating and managing the image and associations that go with their brand.

Why not the Corps?

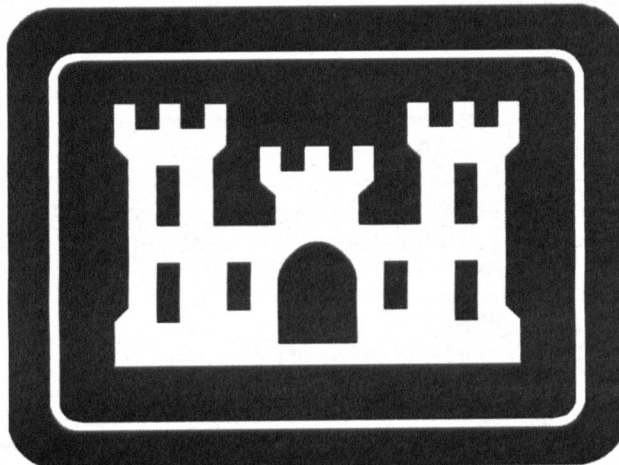
Brand is not just image, it's other messages (visual, verbal, and affective) that add up to the way

the brand makes you think and feel. It's the consistent use of themes, business processes, messages and even logos to convey values, purpose and direction of the organization. It represents what the organization actually is and does in the world, both as customers see it, and as the organization shapes itself.

To understand the concept of branding, look at McDonald's. From the product branding of the Big Mac, Happy Meal, the Quarter Pounder and more, to the corporate branding of the Golden Arches and a cheerful, caring Ronald McDonald, the corporation has fashioned a brand that means "food, folks, and fun" — a total brand strategy that supports every aspect of corporate identity. "So we started from scratch to create programs unique to this project, which are evolving as we go."

McDonald's has the golden arches; the Corps has the castle. But what do those castles mean to our military and civilian customers, Congress, the public, or the numerous contractors who work for us? Should we have a strategy for how our customers

Continued on next page



Districts join to build warning system

By Kim Dunn
Philadelphia District

There is nothing like a crisis to bring people together -- or better still, the opportunity to prepare for a crisis *before* it happens.

In this spirit, Philadelphia and Baltimore districts, along with the Luzerne County Flood Protection Authority (LCFPA), have teamed up to create a state-of-the-art Flood Warning and Response System (FWRS) for the Wyoming Valley of the Susquehanna River between Duryea and Selinsgrove, Pa. The FWRS is part of the mitigation plan associated with Baltimore District's Wyoming Valley Levee Raising Project.

Speedy information. When disasters occur, one of the most important factors in ensuring public safety is speedy dissemination of information," said project manager Janet Griss of Baltimore District, who has been spent much of her time in Philadelphia working on this joint venture.



Build Team

A few years ago, Philadelphia District's Flood Plain Management Services Branch pioneered the field of automated floodplain mapping with the development of Geographic Information Systems (GIS) software that delineates the extent of flooding based on output from a hydraulic model. This mapping software has since undergone continuous improvement and expansion by district GIS coordinator Steve Long, who has also written several auxiliary applications to facilitate other flood mapping tasks. This suite of programs is currently in use by several other districts.

Teamwork. When Baltimore's planners and LCFPA began investigating developing a GIS-based flood warning system, they decided to draw on their neighboring district's expertise.

Based on Philadelphia's existing mapping software, the Flood Warning and Response System will use National Weather Service flood stage predictions at selected gage locations to compute flood inundation maps for an entire river. Long explains, "By overlaying inundation data on demographic data stored in the GIS, the system will provide critical information on who and what will be under water at the time of the flood crest."

When complete, the FWRS will provide local emergency management officials with such vital information as what buildings and roads will be flooded and by how many feet of water. Flood warnings will be issued through multiple media, including television, radio, Internet, and reverse 911. (When the flood warning system determines who needs to be notified, reverse 911 calls those homes with an automated warning message.)

Expedite relief. Since the GIS database will include the assessed value of each structure, the FWRS will also provide preliminary damage estimates based on the predicted water depth for each structure. The ability to furnish this data to the Federal Emergency Management Agency during an actual flood will expedite disaster relief.

"By providing early and precise estimates of the extent of flooding, the FWRS will better equip emergency management officials to evacuate those at risk, and will help affected property owners to minimize potential damage," says Griss. "With advance notice of how deep the water might get inside the house, a resident can have extra time to move vulnerable possessions out of the water's path. Businesses and industry can use the time to shut down operations and take appropriate flood proofing measures."

Besides flood warning, the FWRS will provide a



The Flood Warning and Response System (FWRS) produces map overlays that show what will be underwater at the time of a flood crest. (Printout courtesy of Philadelphia District)

powerful planning tool for other mitigation efforts. For example, running "what-if" scenarios can help in making decisions on property buy-outs, building relocations, and flood proofing efforts. The system can also be used to develop evacuation plans, as it will make it easy to see which roads will become impassable.

Branding

Continued from previous page

see us? Or should we do our best at what we do, and not give much thought to what our publics think?

The second question answers the first. As decision-makers, our customers determine our future and survivability. Of course we have to care greatly what they think. We work in a changing environment. If Congress and the public see us only as dam builders, however proud we are of our past accomplishments and traditions, we are not helping them to see the vast universe of services, products, and problem-solving capabilities we offer.

The challenge? We need to learn from our publics what they think when they see the castle or hear "the Corps." We need to know how they imagine our future role in service to the nation. This information, coupled with a self-analysis of our organization's business practices, structure, core competencies, and strategic future planning, will provide the foundation for a brand management strategy.

Airy-fairy? Hardly. It's taking a rational, practical approach (you could say an *engineering* approach) to making the most of our organization's potential to serve. The brand management process involves in-depth qualitative and quantitative research into customer perceptions, and strategies based on good social science research techniques, not just on blue-sky thinking.

Yet that wildly imaginative approach is part of the science. In the Corporate Outreach Team's meeting, for example, someone suggested that the Corps was a little like an elephant -- big and hardworking but slow and expensive to feed. Also, the Corps is

Optimism. Philadelphia and Baltimore districts are optimistic that implementing the Flood Warning and Response System in Wyoming Valley will be a valuable tool for local and regional emergency management officials. They also foresee this system as a model for similar programs other flood-prone areas throughout the nation.

like the pachyderm that seemed like several entirely different creatures to the four blind men who got hold of trunk, hoof, tail and tusk. Based on the aptness of the image and some more hard-headed discussion, the team concluded that a serious brand management effort could be worth pursuing.

In fact, the team concluded that brand management has the potential to be:

- A critical tool for helping us achieve our Vision.
- A frame for the corporate oneness our diverse work force has been seeking.
- A nationally and internationally recognized mark of ownership and identity we can all support with pride.
- A way to speak clearly to all our publics about our reliable, responsive, respected support, support that responds directly to their personal and community needs.
- A force that can make us change our ways of doing business for the better.

Who knows what might happen if the Corps took some of the elements that make us the powerful, reliable, hardworking "animal" we are, added a clearer understanding of the various ways our publics see us, and built a brand strategy?

Many corporations have found that such efforts have made them more responsive to public needs and wiser with their use of resources. Such strategies have promoted growth and sustained productivity. In fact, the team learned, the strongest brands on the U.S. market have sustained image, ethos, and business success since the 1920s.

So, why not us?

CERL woman overcomes disabilities

Coma, paralysis didn't stop Franczak from having full life

Article by Linda Wheatley
Photo by John Pratt
CERL

Gloria Franczak's life changed forever at 13, after she hurt her knee falling down a flight of stairs at school. Her doctor prescribed a painkiller. A month later the knee was still painful, so the doctor increased the dosage. Franczak then caught a cold, and her doctor prescribed an antihistamine. He also gave her the newly approved mumps vaccination.

Within a week, she lapsed into a month-long coma from the overdose of medications. After waking in a nearly helpless state, Franczak began a courageous struggle to reconnect with her world and pursue a productive life.

Paralyzed

"When I first woke, I was startled to find myself in an oxygen tent," said Franczak, now a computer specialist at the Construction Engineering Research Laboratory (CERL). But the teenager could not express her fears. Her brain had been damaged, and she was unable to speak or move the muscles in her hands or face. She could not walk, dress herself, or feed herself. She was aware of everything going on around her, but could not communicate.

All she could do was cry.

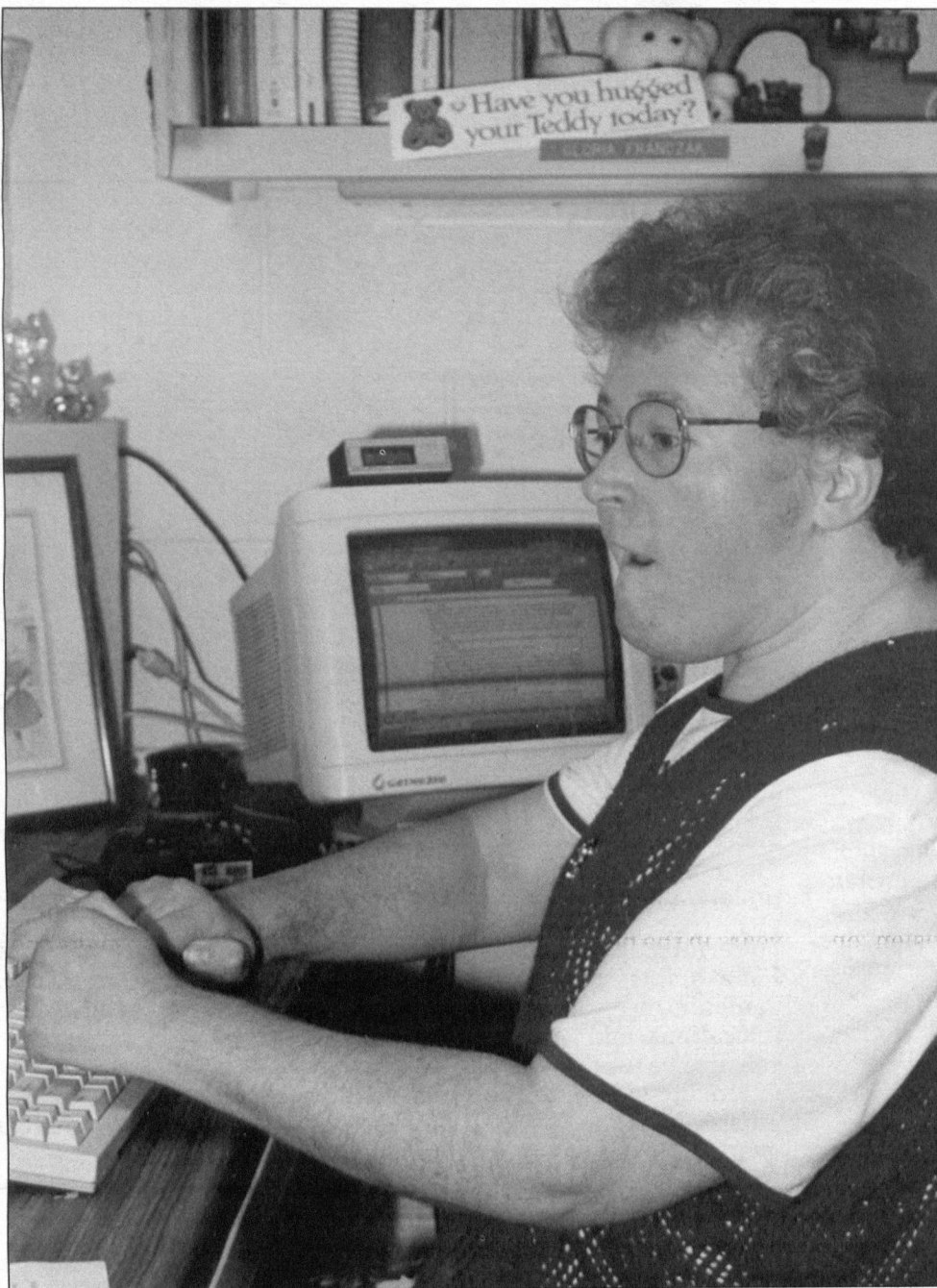
After a month at home, with no change in her condition, Franczak's father placed her in a Chicago rehabilitation hospital. But the tears did not stop, nor was there much improvement. When doctors suggested performing a lobotomy, Franczak's father checked her out of the hospital and took her home. With her parents' help, she began to re-learn everything.

Typewriter voice

Then her father did something that ultimately helped his daughter reach a new level of functioning. He brought home an electric typewriter. Harnessing her limited dexterity, Franczak taught herself to type. The typewriter broke her silence and unleashed a spirit that would drive her to overcome her physical challenges and to "speak" through the keyboard.

Franczak progressed rapidly with the typewriter. At that time (pre-1974) handicapped children were not mainstreamed into regular schools, so she enrolled in the Jesse Spalding High School for the Handicapped and Crippled Children, an inner-city public high school in Chicago.

Franczak recalls that she did not enjoy being at Spalding because of the "crippled" label she received. Also, with much of the curriculum targeted toward students with diminished mental function, she often felt under-chal-



Gloria Franczak types with her knuckles in her job as a computer specialist at CERL.

lenged. "It seemed that much of what I had learned in Catholic grammar school was repeated in high school," Franczak said.

However, some of her teachers soon began to recognize her capacity and enthusiasm to learn. One high school faculty member, Ralph Konzi, was especially encouraging. He was her speech therapist. "Mr. Konzi did not ever hear my own voice, but rather saw the most potential in me, because he had repeatedly told me that I was going to give public speeches someday." She thought he was crazy.

Caring is essential

"Back in high school, I had no idea as to what I wanted to be, what I wanted to do with my life," said Franczak. "All I wanted was to get out of that school. I did not understand then, as I do now, about the tenets, the challenges of life, life goals, and the theory that a whole village has to care for just one child. The

years since have convinced me that caring is not just essential to those of us with physical handicaps; caring is essential to the well-being of the entire human race."

Franczak earned a bachelor's degree in Religious Studies and Philosophy from Rosary College (now Dominican University) in River Forest, Ill., in 1978. She has completed some work towards a master's degree in English and Rhetoric at the University of Illinois at Urbana-Champaign. She also earned associate degrees in Data Analytical Processing (1991) and in Business Management (1995) from Parkland Community College in Champaign, Ill.

Before the accident, Franczak planned to become a pianist and had performed for church choirs and school plays. But she says her destiny was "computer keys, not piano keys!"

Laptop freedom

With the help of her church,

Franczak bought a laptop computer, and she's now on her third. She carries one with her wherever she goes, because the laptop is her voice. Franczak can hear and think perfectly well, but she still cannot talk. So she types out her side of a conversation on the laptop's screen. She still has only limited use of her hands, so she types rapidly with the knuckles of her fingers.

Franczak came to work for CERL in 1987. She travels to and from work (and most places locally) by city bus. At work, she communicates mainly by e-mail. She responds to telephone calls with a computer telecommunications device for the deaf (TDD). When a caller leaves Franczak a voice message at work, she calls the person back on the computer TDD through the Relay Center, and types out her end of the conversation to the associate, who acts as her voice.

At lunch, Franczak "type-gabs" with friends.

Motivational speaker

She has also made her old speech therapist's prediction come true. She gives speeches with the help of others who act as her voice. She eagerly seeks out opportunities to present before audiences, giving a talk based on her valedictorian's address when she earned her Business Management associate degree in 1995.

Franczak sits onstage and usually has a page or two ready to be read, or types out any other message on her laptop as her helper reads it to the audience. The message of Franczak's speeches is to inspire listeners "to dare to be different, to dream big, to go for the gold, to be all that they can be and, most importantly, to care about each other."

"I realize that some people might have thought I was mentally deficient, but I hope that I have convinced them otherwise by now," said Franczak. "I just express myself a bit differently."

Health warning

Besides wanting to communicate that "handicappers are real people with very deep emotional feelings," Franczak offers experience from her own ordeal to educate people about the dangers of mixing medications. Her advice is to be an active participant in your health care — learn all you can about prescribed medications, make sure your doctor knows about other medications you are taking, and report any unusual symptoms.

"Mixing medications can be dangerous and I hope to convince people not to take it lightly," Franczak said. "I'd like to think that injuries like mine will never happen again."

(Dana Finney, CERL Public Affairs Officer, contributed to this article.)

Around the Corps

First Chief Architect

Lawrence Delaney is the first Chief Architect in the history of the Corps. William Brown, Deputy Director of Military programs announced the new position and Delaney's appointment at the Corps' Joint Engineering, Environmental, and Construction Conference held March 22-26 in St. Louis.

Delaney will work in the Directorate of Military Programs's Engineering and Construction Division. He will serve as the Chief Architect of the Corps and advise the Chief of Engineers; Director of Military Programs; and major subordinate commanders on technical issues concerning national and international architecture, interior design, landscape architecture, design, and construction.

Engineer of the Year

On Feb. 10, the Engineers' Society of Western Pennsylvania selected Werner Loehlein of Pittsburgh District as their Engineer of the Year. Loehlein is chief of the district's Water Management Section.

The Engineers' Society of Western Pennsylvania is composed of members of all engineering societies in the region. The judges considered Loehlein's academic, technical, and professional accomplishments, his contributions to the engineering profession, and other activities promoting awareness of engineering during the past five years. "His selection by the ESWP judging committee was unanimous," said Bill Salesky, Chief of the Hydrology and Hydraulics Branch.

"Mr. Loehlein has been an outstanding ambassador for engineering for many years," wrote Frank J. Likar, assistant Chief of Engineering Division, on the award nomination form. "Through his leadership and work, the Water Management Section has been nationally recognized as a customer success story. Increased public involvement, empowered employees and the use of technology are his formula for success."

Small business award

Susan Price of Seattle District is the 1998 U.S. Army Small Business Specialist of the Year.

Under Price's leadership, Seattle District's program excelled, with more than half of all contract dollars awarded to small business enterprises. The district also awarded 20 percent to small disadvantaged businesses and more than 11 percent to woman-owned small businesses.

Price was selected from small business specialists from every installation, post, camp and station in the Army. She has also received the Corps' Small Business Specialist of the Year Award.

In the past year, Price developed, organized, and managed a regional Small Business Opportunity Fair which attracted 105 exhibitors including large prime contractors, federal, state, and city procurement representatives.

She is currently arranging an all-government fair with Navy, Air Force, General Services Administration, Small Business Administration, and Washington State participation. Consolidating all the public entities into one event will strengthen the regions' efforts to achieve common training goals for the small business community.

Are you a Cold War hero?

You may be eligible to receive a Cold War Recognition Certificate from the Secretary of Defense.

According to the fiscal year 1998 National Defense Authorization Act, the Secretary of Defense approved awarding Cold War Recognition Certificates to all members of the armed forces and qualified federal

government civilian personnel who faithfully and honorably served the U.S. anytime during the Cold War era. The Cold War era is defined as Sept. 2, 1945, to Dec. 26, 1991.

For further information you can check <http://coldwar.army.mil> on the web, or write:

Cold War Recognition
4035 Ridge Top Road
Fairfax, Va 22030

Air Force award

The U.S. Air Force selected Norfolk District as their Construction Agent of the Year. This award recognizes the U.S. Army Corps of Engineers or Naval Facilities Engineering Command Office that provided the most professional management of Air Force Military Construction Program projects during the preceding fiscal year.

Norfolk District was nominated by Air Combat Command (ACC) for the award and was the ACC's Construction Agent of the Year Award for 1999. The award will be presented to the district at a future awards ceremony.

Hammer awards

Two Alaska District teams received Hammer Awards at a townhall meeting in Anchorage. One award recognized the Corps, Jacobs Engineering Group, the Alaska Department of Environmental Conservation, the Aleutians East Borough, and the city of Akutan for a modified environmental cleanup process at the former Akutan Naval Station. This project saved an estimated \$6.25 million and five years in the project's schedule.

The second award went to the Corps, the Federal Aviation Administration, the Alaska Department of Environmental Conservation, and the Jacobs Engineering Group for a Coordinated Comprehensive Cleanup project that consolidated contaminated sites in a geographic boundary for faster and cheaper cleanup.

Job fair

Albuquerque District represented the Corps at a job fair for minorities and women that attracted about 600 students from area universities. The district coordinated with Project Uplift, a national institute for professional development, to participate in the Rio Grande High Technology Minority and Women's Job Fair in Albuquerque, N.M. Personnel from Alaska and New England districts were on hand to assist with providing information to attendees, making the event a "One Door to the Corps" effort. Sixty-five other employers from the private and public sectors were also present.

Support to MEDCOM

The Corps began providing Quality Assurance Evaluation support on OMA-funded sustainment work for the U.S. Army Medical Command (MEDCOM) at nine installations worldwide during April.

This initiative began with discussions between Southwestern Division and MEDCOM last fall. Both agencies outlined issues and concerns during a meeting in early November. An intense, two-day proposal preparation followed later that month in Fort Worth, Texas. MEDCOM accepted the Corps' proposal, and agency representatives met again in early March to address specifics such as cost, full scope of services, selection process, procedures for dispute resolution, and timelines/milestones for implementation. The agreement is for an indefinite period.

Fort Worth District will be MEDCOM's "one door

to the Corps" to receive funds and coordinate the Corps' quality assurance efforts. Mike Zalesak, Fort Worth District, is the Corps' single point of contact.

Plastic railroad ties

Crane Naval Surface Warfare Center in Indiana is the first site to install recycled plastic railroad ties in a turnout. The depot replaced 64 wood ties with the plastic ties in December. Crane installed them in partnership with the Construction Engineering Research Laboratory (CERL), and U.S. Plastic Lumber, Inc. CERL has been researching recycled plastic materials for military use for several years.

"Besides providing an alternative to diminishing wood supplies, recycled plastic makes use of waste plastic, which is a major problem in the U.S.," said CERL researcher Richard Lampo.

"So far the recycled plastic ties seem to be doing fine," said Tom Pinnick, planner and estimator for Crane's track construction and maintenance. "They were covered with snow most of January in cold weather, and we've seen no signs of cracking."

The longer service life projected for the recycled plastic ties compared to wood (50 years versus 30) could mean huge savings. "The Army only has about 2,400 miles of track, but because it's used to mainly mobilize equipment and weapons, there are more than 10,000 turnouts," Lampo said.

The plastic ties cost around \$125 per tie, about twice the cost of wood ties. Installation cost is the same as for wood. But areas where wood ties have high decay rates or where tie replacement is expensive may justify the higher initial costs. The rising cost of disposing of chemical treated ties may also make the recyclable plastic ties more attractive.

Field trip

On April 6, about 20 Seoul American Elementary High School third grade students took a field trip to the construction site of the new Army Community Services (ACS) Center on Yongsan Garrison, Korea.

The children put on hard-hats, then Tim Phillips and Mehdi Mizani, both from Far East District's Northern Resident Office, briefed them about the project. After the briefing, the students watched the contractor pour concrete for the foundation.

The tour was part of a classroom reading program which teaches how to build an idea from the ground up. The visit to the construction site illustrated the process of dreaming, planning, and building.

Top project manager

The U.S. Air Force selected Tom Rudd of Engineering Division in Sacramento District as the 1999 U.S. Air Force Civilian Project Manager of the Year in the design category. The award, given by the Air Force Center For Environmental Excellence, recognizes the project manager who provided the best design management of Air Force Military Construction Program projects during fiscal year 1998.

Rudd was nominated by the Air Force Space Command for his work on the Western Range Operations Control Center at Vandenberg Air Force Base, Calif. The facility will command and control all satellite launches, military and civilian, on the West Coast.

"Tom Rudd provided us with great support," said Brad Pearson, the Military Project Manager for Air Force Space Command/Civil Engineering. "He found a way to save us \$5 million dollars on this project and still delivered it on time and right on scope."

"The schedule was really tight," Pearson added. "We have to have this facility up by 21 October and Tom found a way to make the design schedule happen, even when we threw in some complications like adding a security system change at the last minute."

Deputy reflects on 36 years of service

Article by Bernard Tate
Photo by F.T. Eyre
Headquarters

He's been in the U.S. Army Corps of Engineers a long time. In 36 years, he has been a district commander, a division commander, Chief of Staff, Director of Military Programs, rode herd on the 1993 Midwest flood recovery, Deputy Chief of Engineers, and some call him the walking, talking Vision.

Now Maj. Gen. Albert J. Genetti Jr. is retiring. He recently took time to reminisce about the work he has done with the Corps.

"Any time you have the opportunity to command, at whatever level, from platoon leader on up, I'll tell you that's the best job you can get," said Genetti. "Each position had its own challenges and its own rewards. An officer gets much closer to the action, to the people and to the sponsors, as a district engineer. But you have more complex responsibilities orchestrating several subordinate commands when you're a division engineer. And being Director of Military Programs was a totally different challenge. I wasn't in the direct chain of command of anybody, but I was still responsible for a whole bunch of things getting done. That placed a much different perspective on how you approach business. I had to use a lot more 'constructive coercion' with my colleagues."

And the toughest job Genetti had in the Corps?

"That's been the efforts we've made to restructure the Corps," Genetti said. "I've been involved in a number of studies. The Corps, for all its strength in technical talent and skill, and really caring people with extensive experience, is pretty steadfast and pretty

conservative. As a result, change, especially in structure, doesn't come easily. That's been a tough one."

Despite the difficulty, Genetti says that the Corps' reorganization is on track.

"I believe that, in many respects, the Corps was smarter than me in understanding how to reorganize," said Genetti. "For instance, in the early '90s we foresaw that we were not going to be able to have all the technical talent that we wanted at all Corps sites. The regional business center concept, what General Ballard came up with and the divisions are doing right now, we tried to impose on the Corps many years ago. And it didn't work."

"What's the difference?" Genetti asked. "The employees are deciding that it's a smart way of structuring themselves to be successful in the 21st century. The regional business center concept involves them. Regardless of who orchestrates the change, if the folks impacted by it don't understand why the change is necessary, and what options you're looking at, then you're going to have a tough time."

In fact, Genetti says that the regional business center concept is one of the two most important changes he has seen in the Corps.

"The first was the program/project management system," said Genetti. "That broke a culture that's been in the Corps for decades. Several Chiefs of Engineers were adamant that it would be part of how we do business, but we're just now getting to the point, 10 years after the first decision was made, that folks are beginning to accept that it's *here* and it's going to *stay*."

"The second key change is the regional business center," Genetti continued. "I don't think we've be-

gun to understand what that will mean to us. It's not just about how the divisions do business; what does it mean to us here in Headquarters? We've not gotten all the links together yet. We're talking about the possibility of crossing the entire Corps in many functional areas. They used to be scattered to 40 locations; now we've shrunk that to eight. Wouldn't it be nice if we could shrink it to one? That's where I think we're going. It has potentially wide-ranging effects."

Much of this change has been guided by the Corps' Vision, which Genetti helped create. But he says the Vision is not done, and never will be.

"The Vision is a living process and it's constantly changing because the world is constantly changing," Genetti said. "To me, the beauty of the process is it recognizes that we have to keep going forward. The Chief and I have had long discussions, and my biggest concern was that if this Vision process is going to be of value to the Corps, it can't be born with Ballard and die with Ballard. That's why we pulled together the Strategic Management Board. They are the carriers for the Visioning process. Those are our senior SESes; they're going to be around for many years. As they rotate through Headquarters they're put on that board, and the Visioning process is part of their job."

That Visioning process will be needed to meet the challenges of the future. Genetti feels our biggest challenge will be mastering One Door To The Corps.

"It's an easy concept to say, but very difficult to do," said Genetti. "I've gone to districts and had people say to me, 'Why should I be a marketer for the Corps? When I get some work, it just goes to somebody else.' Can you imagine being a stockholder in a company with employees who have that attitude?"

"That's our biggest challenge, for all 38,000 of us to get out there marketing the Corps without worrying who gets the work," said Genetti. "Chances are, if you find some work and give it to somebody else, somebody will get some work for you. But if all you worry about is what you're getting for your district, we may be in trouble."

Genetti himself faces challenges when he retires. "I wanted to stay in public service, so Bonnie and I are going to work for Montgomery County in Maryland as their Public Works and Transportation Director," said Genetti. He includes his wife because "we do everything together. I'm the one who'll be working for the county, and I did the first interview. But when they called me back for a second interview and offered me the job, she was there with me. We've been a team for going on 35 years."

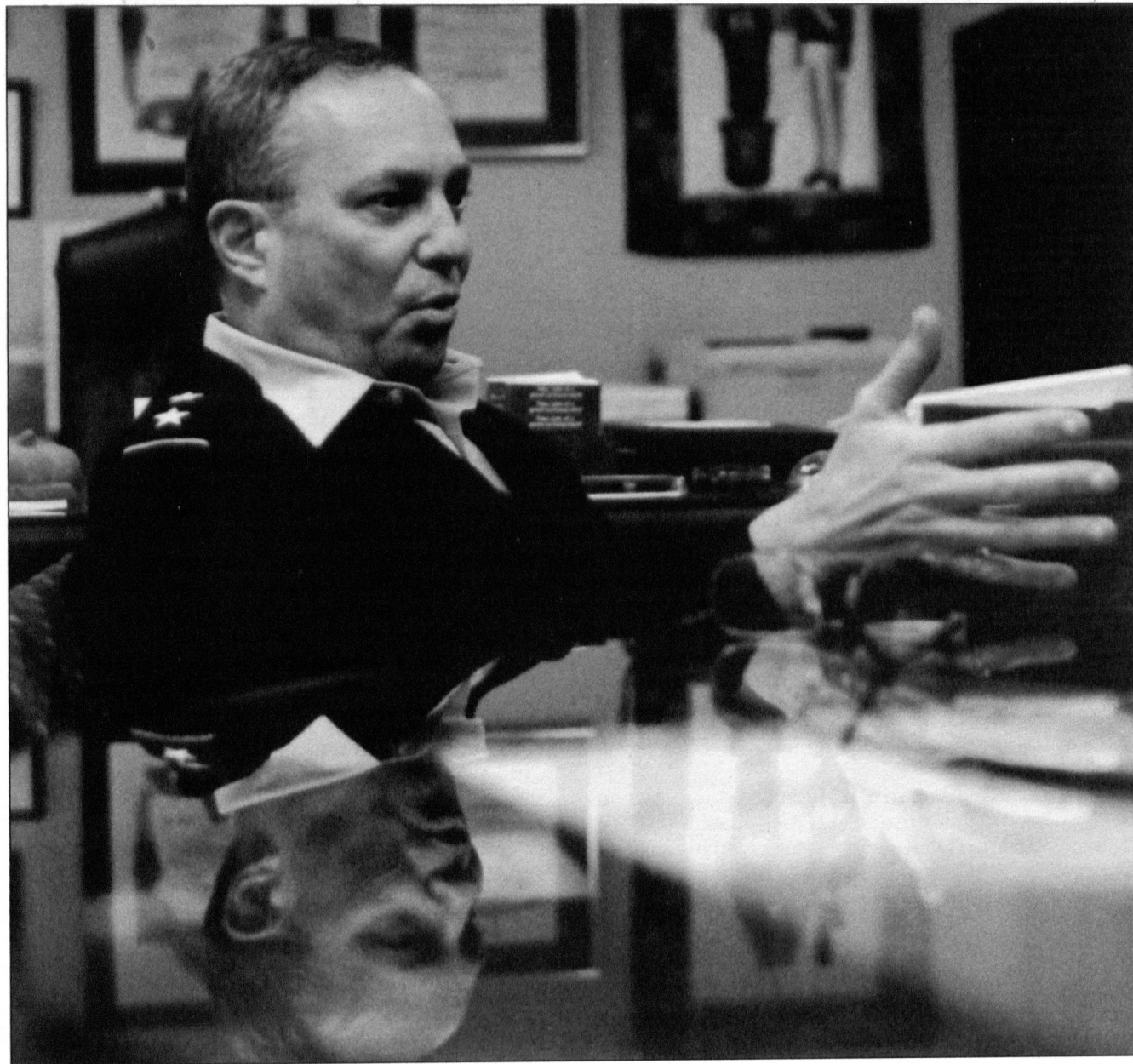
"At some point I plan to retire and I'd like to work with kids in math or science," Genetti continued. "Bonnie has volunteered for most of her career, so that sounds like fun. And there's an awful lot of personal gratification in doing things like that."

That's the future. There are a lot of things from the past that also gratify Genetti.

"First of all, it's been an absolute joy working for Joe Ballard," Genetti said. "He's a phenomenal leader. When he leaves, the Corps is going to realize what he meant to them. It's been a privilege for him to, first, ask me to be in this position and, second, to ask me to stay on for another year."

"And I'll miss the tremendous people in the Corps, at every level," Genetti added. "Can they be hard-headed some days? You bet they can! But almost without exception, they care and they're professional. You don't have to watch them because they're out there doing the work; I don't care what the weather is. If they're angry at you, it's because they want to do more."

"It's been a phenomenal ride for us, but it's time to let someone else take over," Genetti concluded. "And they'll do extremely well, because that same group of folks won't let 'em mess up."



Maj. Gen. Albert J. Genetti Jr., Deputy Chief of Engineers, is retiring after 36 years in the Army.